

## Contents

Pre	Preface to the Second Edition Preface to the First Edition		
		PART ONE	
		THE BASIC TOOLS OF ANALYSIS	
1	INT	RODUCTION	3
16 51 11	I	Economic Models	3
	II	Classification of Markets	4
	III	The Concept of an 'Industry'	7
		A. The Importance of the Concept of an 'Industry'	,
		B. Criteria for the Classification of Firms into Industries	0
2	TH	EORY OF DEMAND	13
	I	Theory of Consumer Behaviour	13
		A. The Cardinal Utility Theory	14
		B. The Indifference Curves Theory	17
		C. The Revealed Preference Hypothesis	28
		D. The Consumers' Surplus	32
		E. Some Applications of Indifference Curves Analysis	35
	11	The Market Demand	44
		A. Derivation of the Market Demand	44
		B. Determinants of Demand	45
		C. Elasticities of Demand	46
		D. Market Demand, Total Revenue and Marginal Revenue	50
	III	Recent Developments in the Theory of Market Demand	53
		A. The Pragmatic Approach to Demand Analysis	53
		B. Linear Expenditure Systems	58
	IV	The Demand for the Product of a Firm	60
2	тн	EORY OF PRODUCTION	67
,	1	The Production Function for a Single Product	67
	II	Laws of Production	76
	**	A. Laws of Returns to Scale	76
		B. The Law of Variable Proportions	82
	111	Technological Progress and the Production Function	85
	III	Equilibrium of the Firm: Choice of Optimal Combination of Factors	
	IV		86
		of Production	86
		A. Single Decision of the Firm	9:
		B. Choice of Optimal Expansion Path	

vi	Con
- Cost Eunctions Irom Flouretion Functions	Content
Combined Derivation of Cost Curves from the Froduction	95
Function	90
p Formal Derivation of Cost Curves from a Production Function	
VI The Production Function of a Multiproduct Firm	97
A The Production Possibility Curve of the Firm	99
B. The Isorevenue Curve of the Multiproduct Firm	102
C. Equilibrium of the Multiproduct Firm	104
4 THEORY OF COSTS	
I General Notes	105
II The Traditional Theory of Cost	105
A. Short-Run Costs	107
B. Long-Run Costs: The 'Envelope Curve'	111
III Modern Theory of Costs	114
A. Short-Run Costs  B. Long-Run Costs: The 'L-Shaped' Scale Curve	115
B. Long-Run Costs: The 'L-Shaped Scale Curve  IV Engineering Cost Curves	120
A. Short-Run Engineering Costs	122
B. Long-Run Engineering Costs	124
V The Analysis of Economies of Scale	125
A. Real Economies of Scale	128
B. Pecuniary Economies of Scale	137
VI Empirical Evidence on the Shape of Costs	137
A. Statistical Cost Studies	138
B. Studies Based on Questionnaires	143
C. Engineering Cost Studies	143
D. Statistical Production Functions	146
E. The 'Survivor Technique'	146
VII The Relevance of the Shape of Costs in Decision-making	148
PART TWO	
THEORY OF THE FIRM	
SECTION A: PERFECT COMPETITION, MONOPOLY,	
MONOPOLISTIC COMPETITION	
PERFECT COMPETITION	154
I Assumptions	154
II Short-Run Equilibrium	155
A. Equilibrium of the Firm in the Short Run	155
B. The Supply Curve of the Firm and the Industry	159
C. Short-Run Equilibrium of the Industry	160
III Long-Run Equilibrium	160 160
A. Equilibrium of the Firm in the Long Run	161
B. Equilibrium of the Industry in the Long Run	163
C. Optimal Resource Allocation	164
V Dynamic Changes and Industry Equilibrium	164
A. Shift in the Market Demand	104
B. Predictions of the Perfect Competition Model when Costs	167
Change	168
C. Effects of Imposition of a Tax	100

Contents		vii
6	MONOPOLY	171
	I Definition	171
	II Demand and Revenue	171
	III Costs	174
	IV Equilibrium of the Monopolist	174
	A. Short-Run Equilibrium	174
	B. Long-Run Equilibrium	177
	V Predictions in Dynamic Changes	
	A. Shift in the Market Demand	179
	B. An Increase in the Costs of the Monopolist	181
	C. Imposition of a Tax	182
	VI Comparison of Pure Competition and Monopoly	183
	VII The Multiplant Firm	186
	VIII Bilateral Monopoly	189
7	PRICE DISCRIMINATION	192
	I Assumptions	192
	II The Model	192
	III. Effects of Price Discrimination	195
	IV Price Discrimination and Elasticity of Demand	198
	V Price Discrimination and the Existence of the Industry	199
	1/1 C	200
8	MONOPOLISTIC COMPETITION	202
	I Assumptions	203
	II Costs	203
	III Product Differentiation and the Demand Curve	204
	IV The Concepts of the 'Industry' and the 'Group'	204
	V Equilibrium of the Firm	205
	VI Critique	209
	VII Comparison with Pure Competition	212
	SECTION B: CLASSICAL OLIGOPOLY	
0	NON-COLLUSIVE OLIGOPOLY	216
9	1 1 1 1 1 1	/10
	I Cournot's Duopoly Model	225
	II Bertrand's Duopoly Model	228
	III Chamberlin's Oligopoly Model	230
	IV The 'Kinked-Demand' Model	
	V Stackelberg's Duopoly Model	233
^	COLLUSIVE OLIGOPOLY	237
U		237
	I Cartels  A. Cartels aiming at Joint Profit Maximisation	237
	A. Cartels aiming at Joint Front Maximodelle	242
	B. Market-Sharing Cartels	244
	II Price Leadership	245
	A. The Model of the Low-Cost Price Leader	246
	D The Model of the Dominant-Firm Price Leader	- 40
	C. Critique of the Traditional Price Leadership Models	248
	- Drice Leaderchin	
	D. Barometric Price Leadership	253
	III The Basing-Point Price System	253
	A. The Single Basing-Point System	25.
	B. Multiple Basing-Point System	

## SECTION C: AVERAGE-COST PRICING

11 A CRITIQUE OF THE NEOCLASSICAL THEORY OF THE	
II A CRITIQUE OF THE NEOCLASSICAL THE STATE OF THE NEOCLASSICAL THE FIRM: THE MARGINALIST CONTROVERSY  FIRM: THE MARGINALIST CONTROVERSY  A secretary of the Neoclassical Theory	
FIRM: THE MARGINALIST CONTACTOR THEORY  I The Basic Assumptions of the Neoclassical Theory  Papert and the 'Full-Cost' Pricing Principle	25
The state of the s	25
III The Hall and Hitch Report and III Gordon's Attack on Marginalism	26
IV In Defence of Marginalism	26
	26
12 A REPRESENTATIVE MODEL OF AVERAGE-COST PRICING	V 20
I Goals of the Firm	27
II Demand and Cost Schedules	
III Price Determination: The 'Mark-Up' Rule	27 27
IV Comparison with Pure Competition	27
V Predictions of Average-Cost Pricing Theory in Changing Market	
Conditions VI Crising Cost Pring	27
VI Critique of Average-Cost Pricing	27
SECTION D: LIMIT-PRICING (or ENTRY-PREVENTING PRICIN	(G) 20:
	28.
13 BAIN'S LIMIT-PRICING THEORY	284
I Bain's Early Model	284
II Barriers to New Competition  A Pain's Consents of 'Competition' and 'Entry'	287
A. Bain's Concepts of 'Competition' and 'Entry'  B. Barriers to Entry	288
B. Barriers to Entry III Summary of Bain's Empirical Findings	289
IV Industry Equilibrium	301
V Some Comments	301
V Some Comments	304
14 RECENT DEVELOPMENTS IN THE THEORY OF LIMIT-	
PRICING	305
I The Model of Sylos-Labini	305
II The Model of Franco Modigliani	313
III The Model of Bhagwati	
IV The Model of Pashigian	319
	320
SECTION E: MANAGERIAL THEORIES OF THE FIRM	323
BAUMOL'S THEORY OF SALES REVENUE MAXIMISATION	225
I Rationalisation of the Sales Maximisation Hypothesis	325
II Interdependence and Oligopolistic Behaviour	325
III Baumol's Static Models	326
IV Baumol's Dynamic Model	327
V Empirical Paid	342
VI Come Come	346
	348
MARRIS'S MODEL OF THE MANAGERIAL ENTERPRISE	252
- Coals of the Firm	352
II Constraints	352
III The Model: Equilibrium of the Firm	354
	356

IV   Maximum Rate of Growth and Profits   V   Comparison with Baumol's Model   366   368   V   Comparison with a Profit Maximiser   367   367   VII   Critique of Marris's Model   368   371   371   371   371   372   372   372   373   374   373   375   375   375   375   376	Con	ents	ix
V Comparison with a Profit Maximiser   366   VI Critique of Marris's Model   367   368		IV Maximum Rate of Growth and Profits	364
VI   Comparison with a Profit Maximiser   367   VII   Critique of Marris's Model   368     17   O. WILLIAMSON'S MODEL OF MANAGERIAL DISCRETION   371   1   1   1   1   1   1   1   1   1			
VII Critique of Marris's Model  O. WILLIAMSON'S MODEL OF MANAGERIAL DISCRETION 1 The Managerial Utility Function 1 The Managerial Utility Function 1 Basic Relationships and Definitions 371 III The Model A. A Simplified Model of Managerial Discretion B. The General Model of Managerial Discretion 373 B. The General Model of Managerial Discretion 376 IV Implications of the Model V. Comparative Static Properties 379 VI Empirical Evidence 381  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  SECTION G: The Concept of the 'Aspiration Level' A Simple Model of Behaviourism 388 IV Means for the Resolution of the Conflict 390 VI Uncertainty and the Environment of the Firm 395 VI Uncertainty and the Environment of the Firm 395 VII A Simple Model of Behaviourism 396 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  1 Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model A. Cretainty Model A. Cretainty Model A. Cretainty Model A. Cretainty Model A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution A. The Iterative Procedure  420 LINEAR PROCECURE 421  LINEAR PROCECURE 422  LINEAR PROCECURE 423  LINEAR PROCECURE 424  A. The Iterative Procedure		VI Comparison with a Profit Maximiser	
1 The Managerial Utility Function   371     11 Basic Relationships and Definitions   372     11 The Model   373     A. A Simplified Model of Managerial Discretion   373     B. The General Model of Managerial Discretion   376     V. Implications of the Model   378     V. Comparative Static Properties   379     VI Empirical Evidence   381     SECTION F: BEHAVIOURAL THEORY OF THE FIRM     SECTION F: BEHAVIOURAL THEORY OF THE FIRM     SECTION F: BEHAVIOURAL THEORY OF THE FIRM   386     I The Firm as a Coalition of Groups with Conflicting Goals   386     I The Process of Goal-Formation: the Concept of the 'Aspiration Level'   387     III Goals of the Firm: Satisficing Behaviour   388     IV Means for the Resolution of the Conflict   390     V The Process of Decision-making   393     VI Uncertainty and the Environment of the Firm   395     VII A Simple Model of Behaviourism   396     VIII A Comparison with the Traditional Theory   398     IX Critique   400		VII Critique of Marris's Model	
1 The Managerial Utility Function   371     11 Basic Relationships and Definitions   372     11 The Model   373     A. A Simplified Model of Managerial Discretion   373     B. The General Model of Managerial Discretion   376     V. Implications of the Model   378     V. Comparative Static Properties   379     VI Empirical Evidence   381     SECTION F: BEHAVIOURAL THEORY OF THE FIRM     SECTION F: BEHAVIOURAL THEORY OF THE FIRM     SECTION F: BEHAVIOURAL THEORY OF THE FIRM   386     I The Firm as a Coalition of Groups with Conflicting Goals   386     I The Process of Goal-Formation: the Concept of the 'Aspiration Level'   387     III Goals of the Firm: Satisficing Behaviour   388     IV Means for the Resolution of the Conflict   390     V The Process of Decision-making   393     VI Uncertainty and the Environment of the Firm   395     VII A Simple Model of Behaviourism   396     VIII A Comparison with the Traditional Theory   398     IX Critique   400	17	O. WILLIAMSON'S MODEL OF MANAGERIAL DISCRETION	271
III Basic Relationships and Definitions III The Model A. A Simplified Model of Managerial Discretion B. The General Model of Managerial Discretion B. The General Model of Managerial Discretion IV Implications of the Model V Comparative Static Properties 379 VI Empirical Evidence  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  ITHE BEHAVIOURAL MODEL OF CYERT AND MARCH I The Firm as a Coalition of Groups with Conflicting Goals II The Process of Goal-Formation: the Concept of the 'Aspiration Level' All Goals of the Firm: Satisficing Behaviour IV Means for the Resolution of the Conflict V The Process of Decision-making VI Uncertainty and the Environment of the Firm VII A Simple Model of Behaviourism VIII A Simple Model of Behaviourism A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model HI Non-Zero-Sum Game Vii Prisoner's Dilemma': A Digression  The Prisoner's Dilemma': A Digression  LINEAR PROGRAMMING  I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution V The Simplex Method A. The Iterative Procedure	0	I The Managerial Utility Function	
III   The Model   A. A Simplified Model of Managerial Discretion   373   373   B. The General Model of Managerial Discretion   376   Implications of the Model   378   379   V. Comparative Static Properties   379   VI   Empirical Evidence   381		ALTERNATION OF THE PROPERTY OF	
A. A Simplified Model of Managerial Discretion B. The General Model of Managerial Discretion IV Implications of the Model V Comparative Static Properties VI Empirical Evidence  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  ITHE BEHAVIOURAL MODEL OF CYERT AND MARCH I The Firm as a Coalition of Groups with Conflicting Goals II The Process of Goal-Formation: the Concept of the 'Aspiration Leve' III Goals of the Firm: Satisficing Behaviour IV Means for the Resolution of the Conflict V The Process of Decision-making VI Uncertainty and the Environment of the Firm VII A Simple Model of Behaviourism VIII A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model V The 'Prisoner's Dilemma': A Digression  THEORY OF GAMMING  I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution V The Simplex Method A. The Iterative Procedure			
B. The General Model of Managerial Discretion IV Implications of the Model V Comparative Static Properties 379 VI Empirical Evidence 381  SECTION F: BEHAVIOURAL THEORY OF THE FIRM  18 THE BEHAVIOURAL MODEL OF CYERT AND MARCH 1 The Firm as a Coalition of Groups with Conflicting Goals II The Process of Goal-Formation: the Concept of the 'Aspiration Level' 387 III Goals of the Firm: Satisficing Behaviour 1V Means for the Resolution of the Conflict V The Process of Decision-making VI Uncertainty and the Environment of the Firm 395 VIII A Simple Model of Behaviourism 396 VIII A Comparison with the Traditional Theory 398 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES 1 Some Definitions 404 A. Certainty Model B. Uncertainty Model Whose III Two-Person Zero-Sum Game A. Certainty Model Whose IV The 'Prisoner's Dilemma': A Digression 412  20 LINEAR PROGRAMMING 1 General Notes 1 Statement of the Linear Programming Problem 1 Statement of the Linear Programming Problem A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution 416 VI The Simplex Method A. The Iterative Procedure			
IV   Implications of the Model   V   Comparative Static Properties   379   VI   Empirical Evidence   381   379   VI   Empirical Evidence   381		B. The General Model of Managerial Discretion	
V   Comparative Static Properties   379   VI   Empirical Evidence   381		IV Implications of the Model	
SECTION F: BEHAVIOURAL THEORY OF THE FIRM			
SECTION F: BEHAVIOURAL THEORY OF THE FIRM  18 THE BEHAVIOURAL MODEL OF CYERT AND MARCH  1 The Firm as a Coalition of Groups with Conflicting Goals  11 The Process of Goal-Formation: the Concept of the 'Aspiration Level'  12 Goals of the Firm: Satisficing Behaviour  13 Means for the Resolution of the Conflict  14 Means for the Resolution of the Conflict  15 W Means for the Resolution of the Firm  16 W The Process of Decision-making  17 Uncertainty and the Environment of the Firm  18 Simple Model of Behaviourism  19 WIII A Simple Model of Behaviourism  10 SECTION G: THEORY OF GAMES  11 LINEAR PROGRAMMING  10 THEORY OF GAMES  11 Some Definitions  12 Some Definitions  13 Uncertainty Model  14 Some Definitions  15 Will Non-Zero-Sum Game  16 A. Certainty Model  17 Word-Person Zero-Sum Game  18 Uncertainty Model  19 Word-Person Zero-Sum Game  10 The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING  21 General Notes  22 LINEAR PROGRAMMING  23 I Statement of the Linear Programming Problem  24 I Statement of the Linear Programming Problem  25 I Statement of the Linear Programming Problem  26 III Graphical Solution  27 A. Graphical Determination of the Region of Feasible Solutions  28 B. Graphical Determination of the Objective Function  29 C. Determination of the Optimal Solution  20 LINEAR Method  21 W The Simplex Method  22 Linear Procedure		VI Empirical Evidence	
18 THE BEHAVIOURAL MODEL OF CYERT AND MARCH  1 The Firm as a Coalition of Groups with Conflicting Goals  11 The Process of Goal-Formation: the Concept of the 'Aspiration Level'  12 Coals of the Firm: Satisficing Behaviour  13 Weans for the Resolution of the Conflict  14 Means for the Resolution of the Conflict  15 Means for the Resolution of the Conflict  16 V Means for the Resolution of the Conflict  17 V Means for the Resolution of the Conflict  18 V Means for the Resolution of the Conflict  19 VI Uncertainty and the Environment of the Firm  19 VII A Simple Model of Behaviourism  10 SECTION G: THEORY OF GAMES  11 LINEAR PROGRAMMING  12 Some Definitions  13 Some Definitions  14 Two-Person Zero-Sum Game  15 A. Certainty Model  16 B. Uncertainty Model  17 Model  18 Uncertainty Model  19 The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING  21 General Notes  22 LINEAR PROGRAMMING  23 I Statement of the Linear Programming Problem  24 II Graphical Solution  25 A. Graphical Determination of the Region of Feasible Solutions  26 B. Graphical Determination of the Objective Function  27 C. Determination of the Optimal Solution  28 A. The Iterative Procedure		The second secon	
I The Firm as a Coalition of Groups with Conflicting Goals II The Process of Goal-Formation: the Concept of the 'Aspiration Level'  III Goals of the Firm: Satisficing Behaviour IV Means for the Resolution of the Conflict IV The Process of Decision-making IV Uncertainty and the Environment of the Firm IV III A Simple Model of Behaviourism IV III A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  I THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  410  LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		SECTION F: BEHAVIOURAL THEORY OF THE FIRM	
I The Firm as a Coalition of Groups with Conflicting Goals II The Process of Goal-Formation: the Concept of the 'Aspiration Level'  III Goals of the Firm: Satisficing Behaviour IV Means for the Resolution of the Conflict IV The Process of Decision-making IV Uncertainty and the Environment of the Firm IV III A Simple Model of Behaviourism IV III A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  I THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  410  LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure	18	THE BEHAVIOURAL MODEL OF CYERT AND MARCH	386
II The Process of Goal-Formation: the Concept of the 'Aspiration Level'  III Goals of the Firm: Satisficing Behaviour  IV Means for the Resolution of the Conflict  390  V The Process of Decision-making  391  VI Uncertainty and the Environment of the Firm  395  VII A Simple Model of Behaviourism  396  VIII A Comparison with the Traditional Theory  398  IX Critique  SECTION G: THEORY OF GAMES  LINEAR PROGRAMMING  1 Some Definitions  404  I Some Definitions  405  I Two-Person Zero-Sum Game  A. Certainty Model  B. Uncertainty Model  II Non-Zero-Sum Game  406  A. Certainty Model  IV The 'Prisoner's Dilemma': A Digression  412  20 LINEAR PROGRAMMING  I General Notes  II Statement of the Linear Programming Problem  III Graphical Solution  A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  410  411  412  414  415  416  417  417  418  419  419  410  410  411  411  411  411			
Level' III Goals of the Firm: Satisficing Behaviour IV Means for the Resolution of the Conflict V The Process of Decision-making VI Uncertainty and the Environment of the Firm 395 VII A Simple Model of Behaviourism 396 VIII A Comparison with the Traditional Theory 398 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions 11 Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  10 LINEAR PROGRAMMING 1 General Notes 1 Statement of the Linear Programming Problem 1 Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution VI The Simplex Method A. The Iterative Procedure			
III Goals of the Firm: Satisficing Behaviour  IV Means for the Resolution of the Conflict  V The Process of Decision-making  VI Uncertainty and the Environment of the Firm  395  VII A Simple Model of Behaviourism  396  VIII A Comparison with the Traditional Theory  398  IX Critique  SECTION G: THEORY OF GAMES  LINEAR PROGRAMMING  19 THEORY OF GAMES  LINEAR PROGRAMMING  19 THEORY OF GAMES  LINEAR PROGRAMMING  10 Two-Person Zero-Sum Game  A. Certainty Model  B. Uncertainty Model  B. Uncertainty Model  III Non-Zero-Sum Game  IV The 'Prisoner's Dilemma': A Digression  410  LINEAR PROGRAMMING  I General Notes  II Statement of the Linear Programming Problem  III Graphical Solution  A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  420  IV The Simplex Method  A. The Iterative Procedure			
IV Means for the Resolution of the Conflict V The Process of Decision-making VI Uncertainty and the Environment of the Firm 395 VII A Simple Model of Behaviourism 396 VIII A Comparison with the Traditional Theory 398 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES 11 Some Definitions 404 12 I Some Definitions 406 A. Certainty Model B. Uncertainty Model B. Uncertainty Model III Non-Zero-Sum Game 410 IV The 'Prisoner's Dilemma': A Digression  412  20 LINEAR PROGRAMMING 1 General Notes 11 Statement of the Linear Programming Problem 110 Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution 420 IV The Simplex Method A. The Iterative Procedure			ALC: UNIVERSITY OF THE PARTY OF
V The Process of Decision-making VI Uncertainty and the Environment of the Firm 395 VII A Simple Model of Behaviourism 396 VIII A Comparison with the Traditional Theory 398 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  1 Some Definitions 404 I Some Definitions 406 A. Certainty Model B. Uncertainty Model B. Uncertainty Model III Non-Zero-Sum Game 410 IV The 'Prisoner's Dilemma': A Digression  411  20 LINEAR PROGRAMMING  1 General Notes 11 Statement of the Linear Programming Problem 11 Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution 420 IV The Simplex Method A. The Iterative Procedure			
VI Uncertainty and the Environment of the Firm  VII A Simple Model of Behaviourism  396 VIII A Comparison with the Traditional Theory  398 IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES LINEAR PROGRAMMING  10 Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model III Non-Zero-Sum Game Viv The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING  I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
VII A Simple Model of Behaviourism VIII A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES LINEAR PROGRAMMING  11 Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
VIII A Comparison with the Traditional Theory IX Critique  SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		, ,	
SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
SECTION G: THEORY OF GAMES LINEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		IX Critique	400
INEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
INEAR PROGRAMMING  19 THEORY OF GAMES I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		SECTION G: THEORY OF GAMES	
I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
I Some Definitions II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure	10	THEORY OF GAMES	404
II Two-Person Zero-Sum Game A. Certainty Model B. Uncertainty Model 408  III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure  406 408 408 410 411 412	.,		
A. Certainty Model B. Uncertainty Model 408 III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure  408 410 410 411 412			
B. Uncertainty Model  III Non-Zero-Sum Game  IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING  I General Notes  II Statement of the Linear Programming Problem  III Graphical Solution  A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  IV The Simplex Method  A. The Iterative Procedure  408  410  410  411  412			
III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure			
III Non-Zero-Sum Game IV The 'Prisoner's Dilemma': A Digression  20 LINEAR PROGRAMMING I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		B. Uncertainty Model	408
20 LINEAR PROGRAMMING  I General Notes  II Statement of the Linear Programming Problem  III Graphical Solution  A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  IV The Simplex Method  A. The Iterative Procedure		III Non-Zero-Sum Game	410
I General Notes I Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure		IV The Prisoner's Dilemma: A Digression	412
I General Notes II Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure	20		
III Statement of the Linear Programming Problem III Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution IV The Simplex Method A. The Iterative Procedure  415 416 416 417 426 427 428	20		
A. Graphical Solution A. Graphical Determination of the Region of Feasible Solutions B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution  IV The Simplex Method A. The Iterative Procedure  416 426 427 427			
A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  IV The Simplex Method  A. The Iterative Procedure			
A. Graphical Determination of the Region of Feasible Solutions  B. Graphical Determination of the Objective Function  C. Determination of the Optimal Solution  IV The Simplex Method  A. The Iterative Procedure			
B. Graphical Determination of the Objective Function C. Determination of the Optimal Solution  IV The Simplex Method A. The Iterative Procedure  420  420  420  420  420  420  420  42			tions 416
C. Determination of the Optimal Solution  IV The Simplex Method  A. The Iterative Procedure  420  421  421			
IV The Simplex Method  A. The Iterative Procedure			
A. The Iterative Procedure			- Miles
A. The herative rioccount			
V The Dual Problem and Shadow Prices 43			
		V The Dual Problem and Shadow Prices	43

## PART THREE

## GENERAL EQUILIBRIUM THEORY WELFARE ECONOMICS

21 PRICING OF FACTORS OF PRODUCTION	
AND INCOME DISTRIBUTION	
Introductory Remarks	4
I Factor Pricing	4
A. Factor Pricing in Perfectly Competitive Markets	. 4
-1 The Demand for Labour in Perfectly Competitive	4.
Markets Circle Verial 5	41
(i) Demand of a Firm for a Single Variable Factor	43
(ii) Demand of a Firm for Several Variable Factors	43
(iii) Market Demand for a Factor	
2 The Supply of Labour in Perfectly Competitive Markets	44
(i) Supply of Labour by an Individual	44
(ii) Market Supply of Labour	45
3 The Determination of the Factor Price in Perfect	
Markets  B. Factor Principle in Learn-Seath, Commetitive Markets	450
B. Factor Pricing in Imperfectly Competitive Markets	45
Model A Monopolistic Power in the Product Market S	45
(a) Demand of the Firm for a Single Variable	THE .
Factor  (b) Demand of the Firm for a Variable F	451
(b) Demand of the Firm for a Variable Factor	100
When Several Factors are Used  (c) The Market Demand for and Supply of	455
(c) The Market Demand for and Supply of Labour	HILL
	456
- The position of the factor warker	458
(a) The Monopsonist Uses a Single Variable Factor	
	458
(b) The Monopsonist Uses Several Variable Factors	
Model C Bilateral Monopoly 5	462
	463
Model D Competitive Buyer-Firm versus Monopoly Union	
	465
II Elasticity of Factor Substitution, Technological Progress and Income Distribution	
A Flasticity of Input Substituti	468
A. Elasticity of Input Substitution and the Shares of Factors of Production	
roduction	468
B. Technological Progress and Income Distribution	471
Some Additional Topics on Factor Pricing and I	Miller H
	472
A. The Price of Fixed Factors: Rents and Quasi Rents	472
- Tron-nomogeneous ractors and Wage Dim	237
The Adding Up Problem: Product Exhauction, The	473
I I I I I I I I I I I I I I I I I I	
2. Clark-Wicksteed-Walras 'Product Exhaustion' Theorem	478
rem rem	.=0
NERAL EQUILIBRIES	479
NERAL EQUILIBRIUM THEORY	484
interdependence in the Economy	484
The Walrasian System	486

Conter	its	xi
(	Existence, Uniqueness and Stability of an Equilibrium	489
	D. A Graphical Illustration of the Path to General Equilibrium	491
	A Graphical Treatment of the Two-Factor, Two-Commodity,	
	Two-Consumer General Equilibrium System (2 × 2 × 2 Model)	495
	1. The Assumptions of the $2 \times 2 \times 2$ Model	496
	2. Static Properties of a General Equilibrium State	497
	(a) Equilibrium of Production	497
	(b) Equilibrium of Consumption	501
	(c) Simultaneous Equilibrium of Production and	
	Consumption	503
	3. General Equilibrium and the Allocation of Resources	504
	4. Prices of Commodities and Factors	505
	5. Factor Ownership and Income Distribution	507
	F. Concluding Remarks	509
1	G. Appendix to Chapter 22	510
	Section I Extension of the Simple General Equilibrium	
	Model to Any Number of Households, Commodi-	
	ties and Factors of Production	510
	Section II Some Comments on the Existence, Stability and	y = 1 = 3
	Uniqueness of General Equilibrium	515
	Section III Money and General Equilibrium	517
		524
23	WELFARE ECONOMICS	524
	A. Criteria of Social Welfare	524
	1. Growth of GNP as a Welfare Criterion	525
	2. Bentham's Criterion	525
	3. A 'Cardinalist' Criterion	526
	4. The Pareto-Optimality Criterion	529
	5. The Kaldor-Hicks 'Compensation Criterion'	529
	6. The Bergson Criterion 'Social Welfare Function'	530
	B. Maximisation of Social Welfare	531
	1. Derivation of the Grand Utility Possibility Frontier	533
	2. Determination of the Welfare-Maximising State	
	C. Determination of the Welfare-Maximising Output-Mix, Con	534
	modity Distribution and Resource Allocation	536
	D. Welfare Maximisation and Perfect Competition	538
	Critique and Extensions	
	1. Extension to Many Factors, Products and Consumers	538
	2 Corner Solutions	538
	3. Existence of Community Indifference Curves	539
	4. Elastic Supply of Factors	540
	5. Joint and Intermediate Products	541
	6. Decreasing Returns to Scale	541
	Deaduction and ( onsimplion	541
	7. Externalities in Production and Consumption	545
	8. Kinked Isoquants	545
	9. Convex Isoquants	540
	10. Increasing Returns to Scale	549
	11. Indivisibilities in the Production Processes	
	CONCLUDING DEMARKS	55
24	CONCLUDING REMARKS	55
Sel	ect Bibliography	
		57
Sul	piect Index	